

**What is Claimed:**

1. A strobe control circuit comprising:  
circuitry for accommodating input voltages having on the order of 100 percent amplitude variation; and  
5 circuitry responsive to a selected candela output for altering a charging parameter.
    2. A strobe circuit as in claim 1 wherein the responsive circuitry includes a circuit for charging a capacitor to a selected voltage notwithstanding variations in the input voltage.
    - 10 3. A strobe circuit as in claim 1 which includes a programmed processor having pre-stored indicia associated with a plurality of candela outputs.
    4. A strobe circuit as in claim 3 which includes an output candela specifier.
    5. A strobe circuit as in claim 4 wherein the candela specifier comprises at least one of a manually settable element, and an electrically settable element.
  - 15 6. A strobe circuit as in claim 2 wherein the responsive circuitry includes circuitry for monitoring a capacitor voltage while charging same.
  7. A strobe circuit as in claim 6 wherein a charging rate can be altered in real-time during respective charging cycles.
  - 20 8. A strobe circuit as in claim 6 which includes capacitor charging circuitry with a variable capacitor charging rate.
  9. A strobe circuit as in claim 8 which includes circuitry for varying the charging rate responsive to the time required to achieve a selected capacitor voltage.
  10. A strobe comprising:  
25 a housing;  
a gas filled tube;  
a capacitor coupled to the tube;  
a candela specifying element;  
input terminals for receipt of voltages in a range of 10-30 volts; and  
control circuitry carried in the housing,

- coupled to the capacitor, the specifying element and the input terminals.
11. A strobe as in claim 10 wherein the control circuitry stores parameters indicative of each specifiable candela.
12. A strobe in accordance with claim 11 including circuitry for energizing the tube in accordance with the specified candela.
- 5 13. A strobe as in claim 10 which includes circuitry responsive to the voltage applied to the terminals for energizing the tube in accordance with the candela specifying element.
14. A strobe as in claim 13 wherein the control circuitry includes a programmed processor and storage for output parameters associated with respective specifiable candela.
- 10 15. A strobe as in claim 14 wherein the processor executes pre-stored instructions for altering a charging rate of the capacitor in response to a selected output parameter.
16. A strobe as in claim 15 wherein the control circuitry illuminates the tube, at least at a first predetermined rate, and wherein the instructions alter the charging rate between illuminations.
17. A strobe as in claim 16 wherein the instructions repetitively increase the charging rate between illuminations in response to a need to increase capacitor voltage.
- 20 18. A strobe as in claim 16 which includes constant frequency, variable duty cycle capacitor charging circuitry.
19. A strobe as in claim 18 wherein the instructions alter the duty cycle in response to applied input voltage.
20. A method of energizing a load comprising:
- 25 responding to an applied source of energy which varies over a nominal range by 100 percent;
- responding to a selected load output characteristic;
- repetitively energizing the load at a predetermined rate in accordance with both the applied source and the selected output characteristic.

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21. A method as in claim 20 which also includes changing the way in which the load is repetitively energized in accordance with the selected load output characteristic.
22. A method as in claim 21 wherein the load comprises an illuminatable element and the selected load output corresponds to an illumination level.
- 5 23. A method as in claim 22 wherein a duty cycle for energizing the illuminatable element is alterable to provide a selected output illumination level.
24. A method as in claim 20 which includes storing at least one time based parameter associated with a selected output characteristic.
- 10 25. A method as in claim 24 wherein energy is supplied to the illuminatable element at the predetermined rate with a variable duty cycle.
26. A method as in claim 25 which includes adjusting the duty cycle in response to a feedback signal from the illuminatable element.
- 15 27. A method as in claim 26 which includes comparing a representation of the feedback signal to the stored time based parameter.
28. A method as in claim 27 which includes retrieving a selected time based parameter from a plurality of stored time based parameters.
29. A method as in claim 28 which includes determining the selected time based parameter in response to a specified illumination output level.
- 20 30. A method as in claim 20 which includes storing at least one amplitude based parameter associated with a selected output characteristic.
31. A method as in claim 30 wherein energy is supplied to the illuminatable element at the predetermined rate with a variable duty cycle.
- 25 32. A method as in claim 31 which includes adjusting the duty cycle in response to a feedback signal from the illuminatable element.
33. A method as in claim 32 which includes comparing a representation of the feedback signal to the stored amplitude based parameter.
34. A method as in claim 33 which includes retrieving a selected amplitude based parameter from a plurality of stored amplitude based parameters.

35. A method as in claim 34 which includes determining the selected amplitude based parameter in response to a specified illumination output level.

36. A method as in claim 20 which includes storing a plurality of amplitude based parameters associated with respective selectable output characteristics.

5           37. A multi-candela output unit comprising:  
              a variable input voltage receiving power supply;  
              a control circuit coupled to the supply;  
              a visual output device coupled to the control circuit;  
              an output candela specifying signal coupled to the control circuit wherein  
10          the control circuit intermittently energizes the output device to produce the specified  
              output candela wherein a maximum value of the input voltage can vary over a range of  
              at least two-to-one.

38. A unit as in claim 37 wherein the control circuit includes an analog-to-digital converter for detecting a voltage applied to the output device.

15           39. A unit as in claim 38 wherein a duty cycle parameter is adjusted in accordance with the detected value of the voltage applied to the output device.

20 40. A unit as in claim 37 which includes an output device feedback line coupled to the control circuit wherein a feedback signal on the line is selected from a class which includes an analog voltage corresponding to a voltage applied to the output device and a digital voltage having at least two states wherein one state is indicative of a voltage applied to the output device exceeding a first value and another state is indicative of that voltage being less than the first value.

41. A unit as in claim 40 wherein the output device comprises a flashable gas filled tube.

25           42.       A unit as in claim 40 wherein the control circuit comprises a programmed  
processor and a plurality of executable instructions.

43. A unit as in claim 42 which includes a stored plurality of candela indicating parameter values.

- 100-100-100-100-100-100-100-100-100-100
44. A unit as in claim 43 which includes executable instructions for retrieving a stored candela indicating parameter value in response to the output candela specifying signal.
- 5 45. A unit as in claim 37 wherein the output candela specifying signal is establishable by at least one of a remotely supplied indicator and a locally supplied indicator.
46. A unit as in claim 44 wherein the output candela specifying signal is establishable by at least one of a remotely supplied indicator and a locally supplied indicator.
- 10 47. A unit as in claim 37 wherein the power supply receives one of a DC-type input and an AC-type input.
48. A unit as in claim 47 wherein the power supply receives a rectified AC-type input.
- 15 49. A strobe unit comprising:  
a source of illumination;  
a feedback circuit, coupled to the source, which provides electrical signals indicative of one of a voltage or a current associated with the source;  
a control circuit, coupled to the source and the feedback circuit, wherein the control circuit includes an input port for receipt of an illumination output specifying indicium; and  
20 a power supply with an input port wherein an applied voltage parameter can vary in a range of about 4:1.
- 25 50. A unit as in claim 49 which includes an indicium providing input element, coupled to the input port, wherein the input element can be set to a selected indicium by one of a local input or a remotely generated input.
51. A unit as in claim 50 which includes a manually settable, illumination output specifying member.
52. A unit as in claim 49 wherein the input energy is in the form of one of DC-type or AC-type.

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53. A unit as in claim 49 wherein the input energy has a DC-type voltage that varies in a range of about 8-30 volts.
54. A unit as in claim 49 wherein the input energy comprises rectified AC with an RMS value in a range of about 8-30 volts.
- 5 55. A control circuit for a triggerable strobe light comprising:  
a set of pre-stored, executable instructions wherein some of the  
instructions monitor an input amplitude value of one of DC or RMS value of rectified  
AC with other instructions responding to a selected one of a plurality of pre-stored  
different light outputs, and, with other instructions responding to a real-time feedback  
10 value from the light, during each flash cycle, to adjust a charging duty cycle parameter  
to produce the selected light output in the presence of variations in the input amplitude  
in excess of 3:1.
- 15 56. A control circuit as in claim 55 including instructions wherein at the start  
of each flash cycle, a current charging duty cycle parameter value is achieved by starting  
at a pre-selected percentage thereof and increasing same to a maximum value thereof  
during a predetermine period of time.
57. A control circuit as in claim 56 wherein executable instructions increase  
the charging duty cycle parameter value in a predetermined number of increments.
- 20 58. A control circuit as in claim 55 which includes circuitry for feeding back  
a voltage indicium across a light energizing capacitor and wherein the other executable  
instructions process the feedback indicium in adjusting the charging duty cycle  
parameter.
- 25 59. A monitoring system comprising:  
a common control unit;  
a communications medium coupled to the control unit;  
a plurality of visual output devices wherein the members of the plurality  
each include a selectable output light parameter and a feedback control system, coupled  
to a flashable light source, for adjusting a charging duty cycle and providing the selected  
output light in response to various supply voltages.

60. A system as in claim 59 wherein members of the plurality each include a power supply, responsive to one of a DC input voltage, and an AC RMS input voltage wherein an input voltage parameter varies over a range of about 3:1.
61. A system as in claim 60 wherein electrical energy and synchronizing signals are carried by the medium.